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Prevalence of OXA-type β -lactamases among *Acinetobacter baumannii* isolates from Northwest of Iran.

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Abstract

Carbapenems have been considered as last line antibiotics for treatment of multidrug-resistant (MDR) *Acinetobacter baumannii* but carbapenem resistant *A. baumannii* has been increased during the last decade in many parts of the world. OXA-type β -lactamase enzymes are the most common cause of carbapenem resistance in *A. baumannii* and presence of ISAb_a1 in upstream of these genes may increase the expression of these OXA genes. The aim of this study was to determine, for the first time, the antibiotic resistance pattern and prevalence of OXA type β -lactamases among nosocomial *A. baumannii* isolates from northwest of Iran. A total of 100 *A. baumannii* isolates were recovered from hospitalized patients in a university hospital in northwest of Iran. Sixty-two percent of isolates were resistant to imipenem. All isolates carried bla(OXA-51)-like gene. Among imipenem resistant isolates, 88.7% carried bla(OXA-23)-like, 1.6% carried bla(OXA-40)-like, and 3.2% had bla(OXA-58)-like resistance genes. Ninety percent of isolates contained ISAb_a1 element and in 74.2% of imipenem resistant isolates, ISAb_a1 was located in upstream of bla(OXA-23)-like. The results of this study demonstrated high prevalence of OXA-type carbapenemase among MDR *A. bumannii* in the Northwest of Iran.

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